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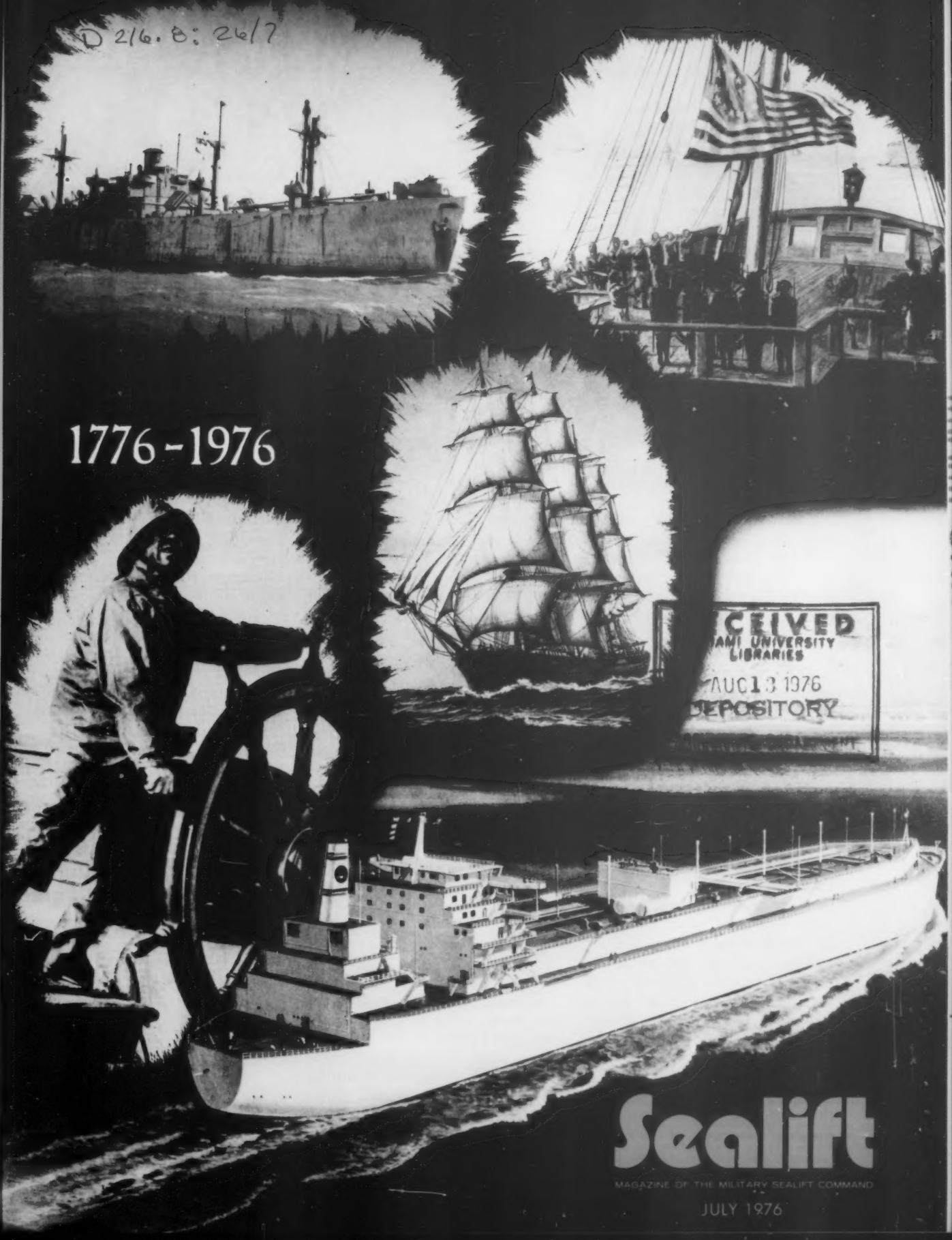

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Sealift

MAGAZINE OF THE MILITARY SEALIFT COMMAND

JULY 1976

Time For Reflection

"There is a history in all men's lives."

That line from Shakespeare's Henry IV carries a special significance for Americans who in 1976 are observing the 200th anniversary of the founding of our country.

Few of us now can recall all of the important historical dates we learned. But if there is one which remains in our minds, it most certainly is July 4, 1776—the day on which the Declaration of Independence was adopted by the Continental Congress. For 200 years, July 4 has been celebrated as Independence Day, and throughout those two centuries our nation and its people have continued to set an example for all mankind.

That political document influenced leaders of the French Revolution and the Latin American independence movement and, in company with the American Constitution, it embodies the hopes and the dreams of people throughout the world who cherish our forefathers' concept of freedom, justice and equality before the law.

But, the Declaration of Independence and the Constitution, treasured though they be, are but documents—words formulated by men and women to represent the highest ideals of mankind.

The real strength of the United States of America has been and remains the combined strength of our people, and of the four basic institutions we have created to provide for the fulfillment of individual needs, our governmental agencies, our educational system, American business, and the church.

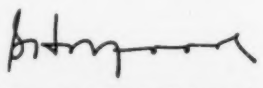
We in the Military Sealift Command are a part of the governmental institution. As a Navy organization, we contribute to the development and maintenance of U.S. seapower. And, in so doing, we continue to help write American history.

During 200 years of U.S. history, seapower has played a dominant role. American colonists came to this country's shores by ships and became skillful sailers and shipbuilders and shrewd traders. Their ships sailed the world's oceans and appeared in every port. Through their efforts, our country grew and prospered.

During the War of 1812, as the result of great victories at sea, the United States emerged as a major world power. Our status was strengthened during two subsequent World Wars when our ships transported and supported the Americans who journeyed far from their own shores to fight for what President Franklin D. Roosevelt later termed the Four Freedoms: Freedom of speech and expression; freedom to worship God, each in our own way; freedom from want, and freedom from fear itself.

During the past 200 years, Americans have forged history by their deeds and by their devotion to our original ideals. Imperfect though we may be as individuals, as a nation we have met many a test—and we have emerged from each new challenge stronger, better and even more deeply committed to the goals set for us by the framers of the Declaration of Independence and the Constitution.

Our Bicentennial is a time to examine history, to honor the accomplishments of our forefathers. It is also a time to recommit ourselves to the mastery of current problems and new challenges. We are the authors of future history, and our ideals, our accomplishments, and our beliefs are the legacy that we will assign to the millions of Americans who will follow the paths we now tread. And, though the pace may be faster and the paths ahead are beset with many obstacles, we shall continue to pioneer for that is our destiny.



Commander, Military Sealift Command

COVER: Development of the nation's maritime heritage is traced in this montage. From upper left clockwise, Liberty ship; first Stars and Stripes raised aboard ship on July 4, 1776; future LNG; helmsman, and Clipper ship (center).

Cover designed by Henry L. Balloon.

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Sealift

MAGAZINE OF THE MILITARY SEALIFT COMMAND

Vol. XXVI No. 7 Washington, D.C. July 1976

Sealift Readiness

Maritime, Defense officials hold forum on sealift readiness, military tests and exercises.

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Maritime Panorama

Reviews of men, ships and events in 200 years of American maritime history.

page 7

Sealift, monthly magazine of the U.S. Navy's Military Sealift Command, is published in accordance with Department of the Navy Publications and Printing Regulations (NAVEXOS P-35). Opinions expressed are not necessarily those of the Navy Department. All original material may be reprinted providing credit is given Sealift. Address all correspondence to Legislative and Public Affairs Office, Military Sealift Command, Department of the Navy, Washington, D.C. 20390. Price 75 cents (single copy). Subscription price, $8.20 per year; $2.05 additional for foreign mailing. Also for sale by Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Morning panel from left: John Alioto, PFEL; Paul Riley, DOD; J. S. Morrison, Sea-Land; Russell Stryker, MARAD; Rear Adm. J. D. Johnson, JCS, and Joseph A. Brogan, MSC, panel chairman.

Where Do We Go From Here?

Photos by Russ Egnor

"While we have not solved all of our problems, we have filtered them out and this meeting has served its purpose. The question now is: Where do we go from here?"

That is how MSC Commander Rear Adm. Sam H. Moore began his summary comments following the command-sponsored Government-Maritime Industry Forum on Sealift Readiness held June 9 at Arlington, Va. More than 125 top-ranking officials of ship operating companies and Department of Defense organizations met in the all-day forum to discuss MSC's Sealift Readiness Program and Military Tests and Exercises. Also participating or attending were officials from the Maritime Administration, the Federal Maritime Commission, maritime trade associations and others involved in sea transportation.

Keynote speaker was Deputy Secretary of Defense William P. Clements, Jr. Stressing the importance of seapower to the United States, both as an economic and military instrument of national policy, Secretary Clements reviewed Department of Defense efforts to bolster the U.S. Navy. He said the U.S. Navy now is superior to that of the Soviet Union, but warned that the Soviet Navy and merchant marine were rapidly increasing their global capability.

The key question, he said, concerns the Navy's relative position in the 1985-90 time period. We must begin to modernize and strengthen our Navy now if we are to maintain our position as a dominant seapower, he warned.

In 1975, Secretary Clements said, the U.S. Navy had 496 ships while the Soviet Navy totaled 2,260 ships. At the same time, the U.S. Merchant Marine had 583 ships com-

Afternoon panel from left: Capt. William Chadwick, MSC; Michael Esposito, American Export Lines; Richard Madigan, U.S. Lines; Niels Johnsen, Central Gulf; Maj. Gen. Alton Post, Army Transportation School, and Brogan, panel chairman.

William P. Clements, Jr., deputy secretary of defense, delivers keynote address.

pared to 1,648 for the Soviet Union. Numbers do not tell the entire story, he said, citing the skills, professional seamanship and courage of both Navy men and merchant mariners, but they do illustrate a trend which must be recognized—and overcome.

Citing Defense Department's reliance on the merchant marine for emergency augmentation, he called for "fresh, innovative measures needed to reap maximum advantages from maritime industry resources."

In a luncheon address to attendees at the Forum, Vice Chief of Naval Operations Adm. Harold E. Shear recognized the many contributions of the merchant marine. But, he warned, in any future war the dangers faced on the seas from a technologically advanced enemy would be "much greater in magnitude than those encountered in either World War I or World War II."

Both Secretary Clements and Admiral Shear expressed their support of the merchant marine and of the forum, which they called an ideal and effective means of stimulating better communication between the maritime industry and Defense organizations.

The morning session of the Forum featured a panel on MSC's Sealift Readiness Program. Chaired by Joseph A. Brogan, MSC, panel members included Russell F. Stryker, Maritime Administration; J. S. Morrison, Sea–Land Service; Paul H. Riley, Department of Defense; John Alioto, Pacific Far East Lines, and Rear Adm. J. D. Johnson, Joint Chiefs of Staff. Prior to the panel presentations and discussion, Donald M. Gardner, MSC, reviewed the history and status of the program.

Among the primary recommendations made by panel participants was changing the method of securing carrier ship commitments— basing commitments on deadweight tonnage or ton-miles of productivity by each carrier rather than on number of ships in his fleet. Industry representatives also recommended that future changes to the SRP contracts be discussed with industry representatives to get their ideas as to the impact of changes.

Also recommended was a means for continuing dialogue between industry and Military Sealift Command, a recommendation which Secretary Clements also considered in his remarks.

Evoking considerable discussion was the impact of call-up of com-

Vice Chief of Naval Operations, Adm. Harold E. Shear, views MSC display at forum.

mercial ships in a situation short of full mobilization. Industry representatives pointed out that this could cause loss of cargo and revenue, both during and following the emergency.

Among ideas advanced during the discussion were the inclusion of a variety of ship types, including container ships, in the Navy/Marad 30 ship Ready Reserve Fleet Program which could be used in emergencies and for exercises and thus lessen the impact of a call-up on commercial carriers.

In the afternoon session of the June 9 Forum, a second panel dealt with Military Tests and Exercises. Participants included Maj. Gen. Alton G. Post, Army Transportation Center; Michael J. Esposito, American Export Lines; Niels Johnsen, Central Gulf Lines; Richard Madigan, United States Lines, and Capt. William Chadwick, MSC. Capt. William Muncy, MSC, reviewed past and planned exercises prior to the panel discussion.

Again, participants stressed the cost of making ships available for charter for use in exercises—and impact on commercial carriage. Cost, several panel members said, cannot be based on the operating expense of the ship plus a profit but must consider revenue lost during a full voyage, plus interest costs on capital investment and the expense of maintaining equipment, container yards, and other support systems and equipment. It was suggested that the military seek to charter commercial ships for exercises during periods they were in port awaiting cargo, or at the tag end of drydocking periods before the ships returned to service. "This would reduce Defense costs," it was said, "while minimizing impact upon commercial carrier operations."

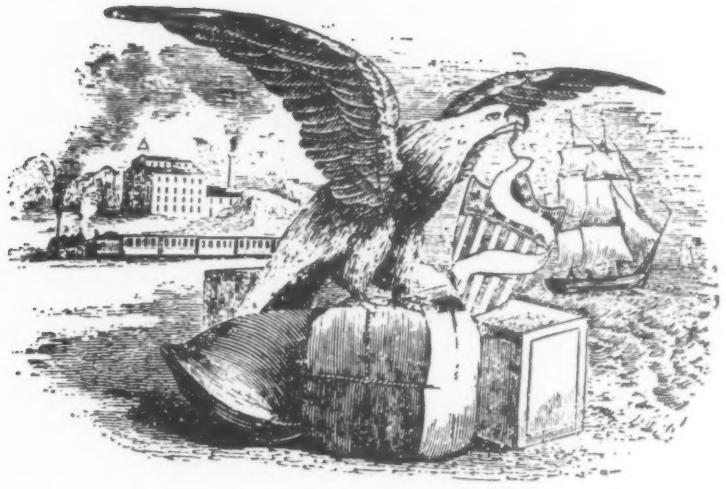
During both sessions, it was pointed out that Department of Defense must maintain an organic fleet—that operated by MSC—to provide immediate response capability. However, the small size of the currently available organic fleet demands that Department of Defense rely heavily upon commercial ships to augment its resources, several speakers said. And it was emphasized that Defense must have assurances from industry that ships will be available when needed, in the numbers, types and time required.

Commenting on identification of requirements, Defense officials told industry representatives that anticipation of possible emergencies, and development of plans to meet them, was an extremely difficult process and that asset flexibility was of primary importance. Needed, Defense officials said, were responsive, versatile and flexible ships which could meet all types of demands for movement of cargo over the beach.

Throughout, the meeting was highlighted by frank and open discussion in which both industry and Defense officials presented their points of view—but repeatedly expressed their appreciation of problems inherent to the commercial operators' need to return a profit to their shareholders and the Department of Defense mission of providing seapower forces adequate to assure national security.

Many industry and military representatives expressed a desire to establish a continuing means of maintaining the type of dialogue evident throughout the day-long meeting. In his closing remarks, Admiral Moore thanked those attending for their recommendations, indicated that all would be fully considered, and expressed his own view that future meetings should be held.

A brief report has been published by Military Sealift Command and distributed to participants. Additional copies of the report are available at no cost, and may be secured from the Legislative and Public Affairs Office, Military Sealift Command, Department of the Navy, Washington, D.C. 20390. —LCM



The U.S. Merchant Marine

A 200-year Epic of Events, Men and Ships

By Larry C. Manning

If man has evolved from creatures who lived in the oceans billions of years ago, as scientific theory holds, his continuing fascination with the sea may be more a product of his instincts than an adventurous spirit which has motivated him to sail the oceans, span the continents in jet aircraft, and walk on the moon after a mind-boggling journey through space.

Just as men have risked their lives to scale Mount Everest and to explore other planets, because they were there, he first learned to cross natural barriers posed by inland streams—and then to traverse the broad oceans. The sea was a part of man's existence long before he learned to read and write, long before he began scratching crude—but even then erotic—pictures on the walls of his caves.

Somewhere, hundreds of thousands of years ago, a daring ancestor climbed aboard a floating log. Later, after he had discovered fire and created hand tools, man learned to hollow out logs and to point their ends, and eventually to make crude rafts from bundles of poles or reeds tied together. He learned how to propel his watercraft with paddles and sails made of animal skins or woven grass mats. Primitive man also learned how to stretch animal skins over frames to make light boats—an art still practiced by Eskimos who use seal skins on bone frameworks to make kayaks that fill today's needs.

The technology gap between a dugout canoe or kayak and a supertanker or giant modern container ship is great—larger than combined egos of Mohammed Ali and Howard Cossell—but the bulk of maritime advances, like those in other areas of transportation, have occurred during the past 200 years.

Our forebears may well have floated to North American shores on rafts long before Nina, Pinta and Santa Maria convinced Columbus' contemporaries that the earth was not flat. Colonists came to Jamestown in May 1607 aboard three very small ships, the Susan Constant, Godspeed and Discovery. They hoped to find gold—and they did, eventually. But, they were greeted initially by dark primeval forests bordered along the shore lines by spring blossoming flowers and fruit trees.

The 104 "gentlemen" and boys who settled the first permanent British colony, Jamestown, had rough sledding at first and many died, victims of hunger, dysentery, fever and their inability to live off the land. They depended on ships to maintain their lifeline with the old world. When the ships failed to arrive, they succumbed. Earlier attempts to colonize the new land had failed when ships were wrecked at sea, and when all of the settlers of Roanoke, in 1584, vanished. In modern parlance, they probably were "wasted" by

hostile Indians.

It is ironic, hundreds of years later, that the first crop the new Americans learned to raise, from the Indians, and which they shipped back to England on supply ships, now bears the label, "May be injurious to your health." But, tobacco was in great demand in Europe. The early settlers grew it and ships returning to England delivered it to the marketplace. As the demand grew, and tobacco growers stepped up production, a Dutch ship helped write an infamous chapter in American history. It brought 20 slaves to American shores, and changed the entire course of American history.

"Why did settlers risk the hazards of the sea, the greed of sea captains, the uncertainties of life in an unexplored and wild land?" Eloise Engle and Arnold Lott posed that question in their excellent and interesting history, America's Maritime Heritage. The answers are in every history text: to escape poverty, to flee religious oppression, to seek quick wealth, and to reduce the effects of over-population in the countries from whence they came..

These individual reasons, however, were secondary to the desire of European merchants and governments to promote trade—to profit from the sale of gold, silver, spices, tea, lumber and other commodities found in the new world. And trade required the building of many more ships.

Just as the Cretians relied upon ships and trade to support their empire 2,500 years B.C., and just as the Phoenicians were the next preeminent wielders of maritime power, followed by the Greeks, Romans, numerous European tribes and eventually the Crusaders, the Pilgrims founded and developed the nation now known as the United States as the result of their ability to navigate the nearly 140 million square miles of the earth covered by water.

The colonists hacked down forests to build log cabins and fishing vessels. Whale oil, fish, flour, tobacco, lumber and other products supported a steadily growing trade, and ships brought back the products colonialists could not grow, manufacture or produce. Villages sprung up all along navigable waterways. It is significant even today that 130 of the 150 U.S. cities having populations of 100,000 or more are located on commercially navigable channels. Thirty-eight of the 50 U.S. states, which have 95 per cent of the U.S. population, are served by ships.

Even a cursory study of history forces one to conclude that two dominant factors have been characteristic of every empire, every civilization. One is exploitation of economic power; the second deployment of military power. Both—throughout history—depended upon ships that enabled their owners to conquer and hold territory, and to distribute resources, products and materials from one land mass to another.

Probably no asset has been more important in development of the United States than ships, the merchant ships which linked the new and old world, and the warships which enabled this country to guarantee a basic principle of our democracy, freedom of the seas.

By the time of the American revolution, the colonies had more then 2,300 ocean-going vessels— a third built in the colonies. That was a remarkable feat when one considers that the first American-built ship, the 30-ton fishing bark Virginia, was constructed in 1607 on the shores of the Kennebec River in Maine.

Colonialists, at that time, fell into three major categories. Nearest to old world aristocracy was the "southern planter"— typified by George Washington, James Madison and Patrick Henry. Another group could be labeled "frontiersmen" while the final dominant sociological grouping was that of the "shipmaster."

Americans trodding the road to rebellion following passage of a number of "Intolerable Acts" by the British Parliament were by no means united. But their revolutionary spirit was burning. The Boston Port Act was a result of the 1773 Boston Tea Party when spirited colonists dressed as Indians dumped three shiploads of tea into the harbor waters.

Following adoption of the Declaration of Independence on July 4, 1776, the rag-tag armies of the new republic faced the British who believed the revolutionists could be beaten by seapower alone, that the powerful Royal Navy recently victorious over the French could blockade American seaports, seize waterways and control all trade and transport. General George Washington was well aware of the revolutionists' need for seapower, calling it "the pivot upon which everything turned."

The Second Continental Congress—in 1775—set out about building a Navy, calling for construction of 13

At the start of the Revolution, the colonies had more than 2,300 ocean-going vessels at their disposal.

frigates carrying five to 24 guns each. There were many delays, and when the ships were built most were captured by the British. At its peak the fledgling Navy had 34 ships and 5,000 men. Ships were for the most part small and weak, manned by ill-disciplined merchant crewmen, and commanded by officers distinguished more for their personal intrepidity than for skill that comes only from long naval experience.

The American fleet's first battle actually took place in port, in 1775, at Machias, Maine. Seeking to capture two lumber-loaded British sloops covered by the armed cutter Margaretta, the townspeople tried to corner the crews in church. That failing, they marched to the wharf but the Margaretta's skipper had already forced a local shipmaster to pilot his cutter out of the harbor. Seizing the British sloop Unity, the patriots, armed with pitchforks, swords and a few muskets, pursued the slow sailing Margaretta, came alongside, clubbed their way aboard, and captured the British ship.

Late in 1775, while the Revolution was still heating up, the schooner Hannah, one of six ships in Washington's mini-Navy, had captured a British stores ship. Another ship in the fleet commanded by John Manley, a Marblehead fisherman and a former boatswain's mate in the Royal Navy, had seized a British supply ship, Nancy. The 2,000 muskets, ammunition and a 13-inch mortar he took were used to drive the British out of Boston. Altogether, the little fleet captured 35 British vessels carrying military cargo worth $600,000—enough to support Washington's Army during the winter.

As the infant U.S. Navy was taking its first faltering steps, sailors, skippers and fishermen rushed to volunteer for service aboard privateers. Legal pirates, authorized by the Continental Congress to prey on British shipping, they hounded the enemy up and down the Atlantic coast. More than 1,000 privateers, carrying 70,000 men, were active and when the last gun had been fired the ships-captured-and-destroyed scoreboard read: British 600, Americans 600. While achieving only a stalemate, American privateers sent British insurance rates soaring, boosted their compatriots' morale and caused British shippers to put increasing pressure on Parliament to end the war.

While the privateers roamed the seas looking for spoils, most of which they kept, the hard-fighting Scotsman, John Paul Jones, carried the Revolution to British shores. Commissioned as a Navy lieutenant in 1775, he sailed the Ranger into Whitehaven, an Irish seaport, burned English ships and terrorized other coastal villages. These attacks were urged on by Benjamin Franklin who sought revenge for British atrocities in America.

Jones became the first naval war hero and is best known for his battle with the British ship Serapis. The initial broadside fired from his ship, the Bon Homme Richard, was a disaster as two of three heavy guns on one side blew up, killing the gun crews and destroying the deck above them. Undaunted, he lashed the Bon Homme Richard alongside the Serapis and the two ships fired broadsides into one another.

With only three guns left, the fire raging throughout the ship, he was asked by the British captain: "Do you surrender?" Jones responded: "I have not yet begun to fight." When his own ship eventually sank, he and the remainder of his crew sailed the Serapis to Holland with the rest of his flotilla. It was the greatest sea battle of the Revolution, and the beginning of a great naval tradition.

But, the perils of independence were great. Treating the new republic like a haughty parent, the British closed their ports to post-revolutionary trade unless a heavy duty was paid. Privateers and pirates zapped lightly-armed American merchantmen who had no navy to protect them. But, they entered the China trade, developed commerce with the West Indies, sailed from the Pacific Northwest with furs for Europe and the Far East, and began poking their bowsprits into most of the world's ports.

Products carried included ginseng—regarded as a "splendid aphrodisiac" by the Chinese—tea, spices, silks, chinaware, sugar, tobacco, butter, fish, pepper, knives, iron, tools, toys, beads, furs, whale oil and slaves. Fortunes were made, and lost, and the seafarer emerged as a "new breed" of American, men who had to be physically tough to cope with 15 to 18-hour work

John Paul Jones was America's first naval hero, and gave the Revolution its first battle cry: "I have not yet begun to fight."

days at low wages in highly dangerous working environments. Not until the early 20th century would collective bargaining legislation be passed which would protect their rights and improve working conditions.

America was on its way to becoming a seapower in the post-revolutionary era. But, there were many challenges. One came from the Barbary pirates who had lived for 200 years by plundering merchant ships. Each ruled by a Dey or Pasha, the states of Algiers, Tunis and Tripoli traditionally demanded tributes to leave foreign ships alone.

First seized was the schooner Maria, out of Boston, in July 1775. Five days later the Dauphin was captured 150 miles west of Lisbon. Eventually, the Moslem, Arabs and Berger tribesmen held 120 American seamen captive. Congress, seeking to avoid another war, agreed to pay $100,000 annually to the three states, and $40,000 more to ransom American seamen already held. Eventually, Congress agreed to build six frigates to protect American shipping, but shipbuilding stopped when Congress accepted a treaty that cost $1 million, one-sixth of the annual budget.

At the same time, during a quasi war with France, another 27 American ships charged with carrying on trade with the British were seized by the French. To add insult to injury, French privateers operating in American waters even entered American ports to spend the money they stole from American ships. To halt attacks on merchant shipping, France demanded a loan of 32 million Dutch florins and a gift of 1.2 million gold livres. All of which prompted Charles Pinckney, the American minister to France, to bang a table with his fist and shout: "Millions for defense, but not a damned penny for tribute."

While Britain and France maintained an adversary relationship, American ships were ground in the millstone between the two until the U.S. Navy was tasked with driving the French privateers from American waters. Culmination of that action was the battle in February 1799 between the Constellation and the French Insurgente. The winner, by a knockout, in less than one hour, the Constellation. A few months later, the United States and Constitution seized 12 French privateers in the eastern Caribbean and by the end of the year, 25 French privateers had been Americanized, or sunk.

The beginning of the 19th century was marked by continuing actions against the Barbary pirates—one of the most dramatic being the burning of the Philadelphia, which had been captured by Tripolitans and taken to the harbor of Tripoli. Lt. Stephen Decatur and 84 volunteers from the Enterprize and Constitution boarded the ship and burned her without a single American being wounded. Admiral Lord Nelson called Decatur's feat the "most bold and daring act of the age."

For the next two years, American warships block-

GREAT
ENCOURAGEMENT
FOR
SEAMEN.

ALL GENTLEMEN SEAMEN and able-bodied LANDSMEN who have a Mind to diſtinguiſh themſelves in the GLORIOUS CAUSE of their COUNTRY, and make their Fortunes, an Opportunity now offers on board the Ship RANGER, of Twenty Guns, (for FRANCE) now laying in PORTSMOUTH, in the State of NEW-HAMPSHIRE, commanded by JOHN PAUL JONES Eſq; let them repair to the ſhip's Rendezvous in PORTSMOUTH, or at the Sign of Commodore MANLEY, in SALEM, where they will be kindly entertained, and receive the greateſt Encouragement.---The Ship RANGER, in the Opinion of every Perſon who has ſeen her is looked upon to be one of the beſt Cruizers in AMERICA.---She will be always able to Fight her Guns under a moſt excellent Cover; and no Veſſel yet built was ever calculated for ſailing faſter, and making good Weather.

ANY GENTLEMEN VOLUNTEERS who have a Mind to take an agreable Voyage in this pleaſant Seaſon of the Year, may, by entering on board the above Ship RANGER, meet with every Civility they can poſſibly expect, and for a further Encouragement depend on the firſt Opportunity being embraced to reward each one agreable to his Merit.

All reaſonable Travelling Expences will be allowed, and the Advance-Money be paid on their Appearance on Board.

IN CONGRESS, MARCH 29, 1777.

RESOLVED,

THAT the MARINE COMMITTEE be authoriſed to advance to every able Seaman, that enters into the CONTINENTAL SERVICE, any Sum not exceeding FORTY DOLLARS, and to every ordinary Seaman or Landſman, any Sum not exceeding TWENTY DOLLARS, to be deducted from their future Prize-Money.

By Order of CONGRESS,

JOHN-HANCOCK, PRESIDENT.

SALEM: Printed by E. RUSSELL, at the Sign of the Bell-Tavern.

Congress issued posters calling for able bodied seamen to join the nation's new Navy.

aded the harbor of Tripoli and in 1804 Edward Preble launched a series of five attacks against the harbor, sank three enemy gunboats, captured four, and earned a new respect for America. And, after Marine Lt. Presley O'Bannon and U.S. Consul to Tunis William Eaton led a contingent of seven other marines, soldiers, and tribesmen on camels from Alexandria to Derna, a treaty was signed. That event provided the inspiration for the second line of the marine hymn, ". . . to the shores of Tripoli."

It had become evident to the new nation that there was no way it could stay out of European squabbles, and that both a merchant marine and strong Navy were necessary to protect national security and to assure economic growth. There were many meanderings and turnings, and many attempts to protect national interests short of going to war. But, some Americans were pro-British when Napoleon went to war with Britain while others were pro-France.

Logically, both should have been the enemy as Americans sought to establish their right to freedom of the seas for the French had seized 558 American ships

between 1803 and 1812, the British 917. Despite the mistreatment by France and Britain, President Thomas Jefferson opposed a large-scale foreign war since the American Navy was weak, and the Army was even weaker.

But, it was the second end of a military doubleheader as Americans again fought the British in the War of 1812. President James Madison was then at the helm of the ship of state but Americans generally were not united. Some New Englanders actually proposed withdrawal from the Union. The U.S. Navy had only 14 ships at sea while the British Navy had more than 1,000.

Lunt and Engle, in America's Maritime Heritage, said that "except for individual action by American frigates on ocean and lake, the War of 1812 was on the whole very poorly fought." One force under General Hall attacked Canada from Detroit, but he surrendered his Army without firing a shot. By 1813, with American forces retreating, the need to gain control of the Great Lakes was evident. The task was entrusted to 27-year-old Oliver Hazard Perry and his ships met the British in September. Losses on both sides were heavy but Perry led his forces to a complete victory, reporting: "We have met the enemy and they are ours. Two ships, two brigs, one schooner and one sloop."

In September 1814, after Napoleon had met his Waterloo, an American fleet under Thomas Macdonough fought the British in the Battle of Lake Champlain. Engle and Lott described the victory as momentous. "The British Army was forced to retreat, New York was saved from conquest and the old Northwest was spared from British domination, and New England decided not to separate from the Union after all."

The British did manage to invade Washington, D.C. in 1814 and burned most of the public buildings, including the White House. But they were beaten off at Fort McHenry, in Baltimore, while Francis Scott Key watched the bombardment and wrote the words of The Star Spangled Banner. And in 1814, the British suffered a decisive land defeat in the Battle of New Orleans.

During the War of 1812, Navy ships won 12 of 13 battles with the British and 500 American privateers inflicted great damage on British ships, and disrupted the flow of supplies. When the Treaty of Ghent was signed in 1814, the day before Christmas, the war was over and the American republic had been emancipated from Europe. Ships and American fighting men had earned a new respect and their young nation had emerged as a world power—primarily because it had become a major seapower.

With its new-gained military credentials, America went on to achieve supremacy in international trade. Having twice defeated the richest and most powerful nation in the world, the American people ventured away from the eastern seaboard, conquered the vast American wilderness and converted a weak, disorganized and struggling nation into the world's greatest power—one which historically has offered hope, home and a hand to those who share American ideals.

By purchase, conquest or annexation the United States acquired Louisiana, Florida, Texas, Oregon, Alaska, Hawaii, Puerto Rico, Guam and the Philippine Islands. The nation's population increased to 76 million by the beginning of the 19th century, and imports and exports jumped from $70 million in 1800 to $1.5 billion in 1900. Ships carried that trade—28,000 of them entering American ports in 1900.

By 1816, ships carried passengers, mail and cargo on schedule between the old and new countries. Immigrants by the millions added their skills and cultures, and a unique American society prospered and grew. There were, of course, many more challenges. By 1815 the China trade had become tremendously important, the whaling and fishing industries were flourishing, and U.S. territory increased by a third following the war with Mexico.

The golden era of the merchant marine was the era of the Clipper ships, in the mid-19th century. Lean, fast and highly profitable, they carried thousands to California during the Gold Rush, their owners often paying for a $70,000 ship in a single voyage. Thousands of dollars were bet on races between the greyhounds of the sea which hit 20 knot speeds at times. Between 1850 and 1855, at least 161 Clippers were launched. Eventually they succumbed to a technological achievement, the steam engine, and the advent of the transcontinental stagecoach. U.S. maritime power began to decline.

Ever since, a graph depicting the strength of the merchant marine looks rather like a roller coaster track.

During the Civil War, insurance rates went so high that ship owners began operating their vessels under foreign flags of convenience. Only 8 per cent of U.S. ships were flying the American flag at the end of the 19th Century.

When World War I broke out in Europe, there was an acute shortage of shipping as warring nations withdrew their ships from U.S. trade routes. The Shipping Act of 1916 set up the Emergency Fleet Corporation which built 2,000 merchant ships. Most, however, were delivered after World War I was over. By 1936, the United States ranked sixth in number of merchant ships.

History repeated itself in World War II when nearly 5,600 merchant ships were built—and carried millions of tons of supplies and troops overseas. Now, however, the United States has only about 520 ships and ranks tenth among maritime nations. The Soviet Union, seventh, has more than 2,400 merchant ships.

In 1947, U.S. merchant ships carried 58 per cent of U.S. trade. In recent years, carriage of this nation's trade in U.S. bottoms has hovered around 6 per cent. The United States, founded and developed as a mari-

time power, has become a virtual maritime dependent of nations such as Liberia, Japan, the United Kingdom, Greece and Panama. Even Soviet merchant ships now call U.S. ports to carry both passengers and cargo. U.S. passenger ships have gone the way of the Dodo bird, victims of aluminum birds that fly high above the oceans.

The strength of the U.S. Navy has diminished to the point where U.S. leaders defend a claim of parity with the Soviet fleet rather than pointing with pride to U.S. supremacy on the seas.

There are, of course, bright spots. U.S. technology has produced the container ship, barge carriers and roll-on, roll-off carriers. Under construction are liquefied natural gas carriers, very large crude carriers, and other specialized ships, all highly productive.

Although new ships are being constructed, their numbers are far below the 300 envisioned following passage of the Merchant Marine Act of 1970. A primary reason is lack of cargo which U.S. ships can compete for successfully against foreign carriers. Merchant ships are built with the aid of government subsidy, and many carriers receive operating subsidies—but they still are not fully competitive.

What does the future hold? Much depends upon the government and the American public—the shipper and the consumer. Great changes of attitude are needed, for while only a few critics maintain the United States does not need a strong merchant marine, millions of Americans, as the British so succinctly put it, "really couldn't care less."

Maritime interests are lobbying for cargo preference legislation at the same time that Third World nations are building new merchant fleets and competing for a larger share of international trade. Some Americans are not fully convinced that the combatant Navy needs to be strengthened and modernized, primarily because the cost is high and military expenditures diminish the money required to support other governmental programs.

Two forces seem to be at work. One is public apathy, conditioned by historical fact that the Navy and merchant marine have always managed to fulfill their responsibilities in every war during the past 200 years. They think history rewrites itself, when it is men's deeds which are the source of victory. Second is the blind belief that, given sufficient airpower, the United States need not concern itself with the maintenance of its traditional seapower.

Sir Halford McKinder, a Scottish geographer, after expressing his heartland theory—that the nation which controlled the land masses of Europe and Asia would dominate the world—amended his theorem to include a second heartland which constituted an opposing force, the North American continent. Alfred Mahon updated geopolitical thinking in 1890 when he published The Influence of Seapower Upon History. Seapower, he said, is an effective means of outflanking landlocked military might. He advocated the building of superior U.S. seapower as an essential element of national prosperity and greatness.

Third World nations are competing for a larger share of international trade.

When all past deeds have been reviewed, the question remains: Will the United States flag fly over U.S. ships in future generations as proudly and effectively as those flags flown in the 100 years preceding the birth of the nation, and the 200 years since that time?

While Americans are reemphasizing history during their bicentennial year, they need to regain the spirit which motivated our ancestors, a feeling captured by Oliver Wendell Holmes upon learning that the USS Constitution was to be scrapped. He wrote a poem which began:

"Aye, tear her tattered ensign down!
Long has it waved on high,
And many an eye has danced to see
That banner in the sky. . . "

That banner, and the pride and respect it has earned while carried by U.S. ships at sea should not be relegated to history. It should fly both in honor of our past, and as a signal of our future, on land, in the air, and at sea.

Main topmen of USS Tennessee just after Civil War.

The Men

"A sailor's life is at best but a mixture of little good with much evil, and a little pleasure with much pain. The beautiful is mixed with the revolting, the sublime with the commonplace, and the solemn with the ludicrous."

Two Years Before The Mast
By Richard Henry Dana

By Louis Panarale

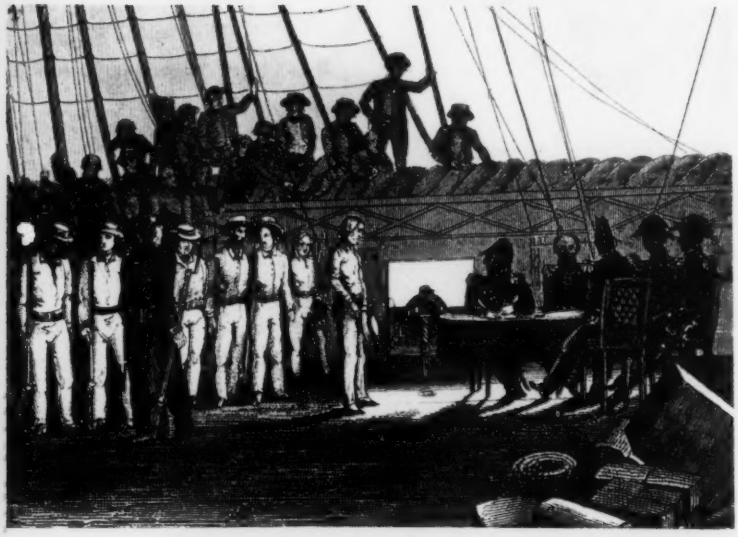
When the second Continental Congress first authorized the outfitting of military ships in October 1775, there was no difficulty in finding seamen to fight in the American Revolution. The difficulty was in molding this rag-tag assortment of American manhood into able seamen for the nation's first Navy.

Most American settlers had come from the maritime nations of Europe and had a touch of sailing in their heritage. But there were negative qualities to go along with the positive. Ships' crews often ended up with a collection of farm boys looking for adventure, shanghaied derelicts, paroled prisoners and runaway apprentices. Adjusting these crews to naval warfare was often long and costly. George Washington wrote: "The plague, trouble and vexation I have had with the crews of all the armed vessels is inexpressible. I do believe there is not on earth a more disorderly set."

The first feeble steps were taken in 1775 to assure seamen of a rating structure with the publication of Rules for the Regulation of the Navy of the United Colonies. Among other stipulations, the rules required the captain not to rate any crew member to any lower station than they served in their previous ship.

In reality, the seaman had no rights in this time of war. The pay was low, the food often was uneatable, and the quarters were miserably cramped. The food a seaman ate and the clothes he wore were often infested with vermin. If he became ill or was wounded, the

Seamen could expect severe punishment for almost any infraction aboard ship.



seaman was at the mercy of the ship's doctor who was usually nothing more than a drunken incompetent, unable to make a decent living ashore.

Discipline was severe. Jack Coggins, in his book Ships and Seamen of the American Revolution, notes: "By our standards it was unbelievably harsh. But life everywhere was hard in those days, and so perhaps life afloat was not quite so terrible as our reading of contemporary accounts would indicate. But it was grim enough."

The captain's word was law, and the boatswain was the strict enforcer of that law. The boatswain's pipe was the sailing ship's public address system. It could be heard 120 feet up in the rigging and in the deepest and darkest hold. His rattan cane was an instrument of persuasion which, it was said, "cured more scurvy than the doctor, made cripples take up their beds and walk, and made the lame skip and run up the shrouds like monkeys."

The boatswain and boatswain's mates examined rigging, anchors, booms and boats and saw that the crew kept busy at all times. The boatswain dealt with infractions by administering lashings with the cat-o-nine-tails, a whip made of nine knotted lines fastened to a handle. It left scars on a man's back that resembled the scratches of a cat.

Another punishment was keel hauling whereby a seaman would be bound with ropes and hauled under the ship from stem to stern or side to side. If he didn't drown he faced the added danger of being cut to ribbons by the barnacles on the ship's hull.

Despite these harsh punishments, many officers tried to make life at least bearable for the seaman. "The cleverest commanders," Coggins wrote, "and usually the most successful, were those who realized that most men will do more for a just and humane leader than for one who ruled with the lash alone."

After the war, the young American nation was in dire need of rebuilding its depleted number of seaworthy merchant ships. Private ship companies had suffered heavy losses in sunken ships from the attacks of British privateer vessels. Community interest in investments for commercial shipping was high. Townspeople entrusted their little private speculations or "adventures" to the captain of a local company. It was a custom which began in the post-war Federalist period and continued into the 19th century. From 1789 to 1810 total tonnage in maritime shipping increased from 98,000 to 435,700 tons. One man was required for every 15 tons of shipping. The proportion of officers to seamen was not less than one to five.

With this emphasis on building of commercial fleets, high wages were the lure for many a Yankee boy. A bright lad who entered by way of the forecastle could expect to be given an officer's berth in a short time if he displayed the abilities in his early assignments. As maritime commerce expanded, wages rose accordingly.

Israel Thorndike, of Beverly, Mass., was paying ordinary seamen $4.50 and able seamen $7 a month in schooner voyages to the West Indies and Portugal in 1799. J and T Lamb, a northeast fur trading company, was paying the following monthly wages: Boys $8 to $10, ordinary seamen $14 to $17, able seamen $18, and petty officers up to $24, good wages in those days.

On the U.S. frigate Essex, in 1799, boys and ordinary seamen were paid $5 to $14, able seamen $17, besides prize money in profits from selling captured ships. These wages were paid at a time when an army private's pay was $3 a month.

In 1811, William Grey, who had a prosperous trade with Russia, paid his ordinary seamen $16, and his able seamen $21. Shore wages in comparison were lower, and there were few opportunities for wage earning outside of farm labor. For this reason alone, many young men went to sea in order to lay aside a little money to buy a farm and get married. But many of them never returned because life at sea, even during times of relative peace, was still a dangerous game. Yellow Jack contracted in a West India port disposed of many a stout ploughboy. There are recollections of schooners limping home from the Spanish Main, sailed by only one sickly man and a boy.

The typical early 19th century seaman was of English or Irish ancestry. He stood a sturdy 5 feet, 8 inches tall. He was 22 and he could write and read fairly well and though he slept in a crowded and filthy forecastle he was in the opinion of one U.S. senator the "best treated and best paid" sailor in the world.

When a seaman was ailing, the captain would often prescribe for him. An entry in an early 19th century log, describing the treatment of a sailor with a chill and its result, shows the lengths to which a conscientious captain would go: "A powerful dose of calomel and

jalap (both physics) was afterward followed by a dose of castor oil and numerous injections, blisters upon the calf of both legs after soaking them well in hot water, a blister on the breast and throat rubbed with cinnamon. He complained of no pain excepting the headache. . . . soon after the delirium came on which continued for a short time when he appeared to fall into a gentle quiet sleep and died."

With conditions of punishment and sickness, it would seem difficult today to understand why men were attracted to such a life, especially with the added dangers of war.

If the newly commissioned American Navy could lure young men, the privateer could offer much more. The privateer was a privately owned vessel, armed and made suitable as an ocean raider. It was commissioned by a nation at war, through a "letter of marque," to commit hostile acts against enemy ships.

It was seldom difficult for the American revolutionary government to find crews of privateers. The capture of a British cargo ship by a privateer meant big money to the privateer owner and generous prize money to the officers and crew. The biggest share went to the owners who made the initial investment of fitting out their ships and took the risk of having them sunk by some cruising man-of-war. But a handsome share was divided among captain and crew as well.

Several successful captures could make fortunes for the privateer owners and make the captains comfortable for the rest of their lives. Even the lowly cabin boy could make more in one cruise than he could hope to make in several years of backbreaking labor ashore.

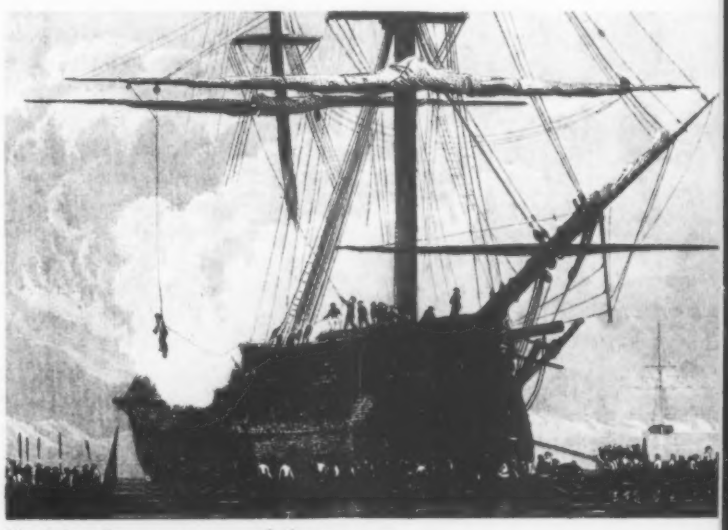
The clipper era, from the mid-1840s to about 1860, was the culmination of a near mania for speed that had obsessed the American shipbuilders and merchants. By 1851 there was a chronic shortage of seamen. Although clipper crews had better accommodations than in other merchant ships and ate the same food as the officers, not many men wanted to sign on for such dangerous and hard work. Crewmen had to handle large and heavy sails. The huge over-sparred clippers with their narrow bows had a tendency to be awash with water, drenching anyone on deck. In San Francisco, men would jump ship, drawn by the lure of the California gold rush. Thousands of able seamen with "gold fever" headed for the gold fields, leaving many clippers almost entirely abandoned.

At the height of the gold rush 500 ships of all kinds lay stranded in San Francisco's wharf. Ship captains were desperate and hired "land sharks" to find new crews. The land sharks were seedy, unprincipled characters who, for a fee, would collect any assortment of bums, roustabouts and ex-convicts and pass them off as able seamen. It was usually necessary to drug or kidnap the unwilling victims who often had never been aboard a ship in their lives.

The clipper ships, with their motley collection of unwilling and unschooled seamen, did not create very jovial conditions. Some captains' wives and families sailed aboard the clippers to make life more bearable for the captains. The women were mostly young and some were only teenagers.

In the winter of 1856, 19-year-old Mary Patten sailed with her husband, Joshua, who was captain of the clipper Neptune's Car. The first mate had to be put under arrest for insubordination. To make matters worse, Joshua became ill with a raging fever. Mary had to take charge of the ship.

With a bare knowledge of navigation and, with the help of an illiterate second-mate, she fought the clipper all the way around the treacherous Cape Horn and piloted her safely up the West Coast to San Francisco, a frightful ordeal that took 120 days. She did all this while at the same time caring for her sick husband. Her exploit earned her the title of "Florence Nightingale of the Ocean." In her honor, a hospital at the U.S.



Keel hauling was one of the more drastic forms of punishment in the early days.

Merchant Marine Academy, Kings Point, New York, is named Patten.

Yankee sailors had fine reputations, but by the 1850s railroads, factories and western emigration provided more tempting occupations than life before the mast. Wages paid seamen were small compared to what could be earned ashore. Average seaman's pay for a clipper voyage from the East Coast to San Francisco was $8 to $12 a month. And there was yet another innovation that hastened the demise of the sailing ship. It was the steamship.

Naturally the change from sailing ships to steam ships had to have its effect on the kind of seamen that were needed. By the end of the 19th century, the American seamen no longer would be among the best paid in the world. No longer was he the rosy cheeked New England boy of the sailing ships who left his home for a year or two before the mast. He was replaced by the slogging industrial worker who toiled in the steel forecastle of a steamship.

He became the country's forgotten man. Ashore he was the patsy of land sharks, prostitutes and other opportunists. At the boarding house he was sold cheap liquor and drugs at triple the market price. When he ran out of money and ran up a bill, the boardinghouse keeper would get him a ship's berth and garnishee his wages.

The seaman remained essentially unprotected until the coming of the maritime unions of the 20th century. The U.S. Congress made it a crime for a ship's officer to "beat, wound or imprison" a seaman from "malice, hatred or revenge." Kidnapping crewmen was prohibited by federal statute in 1906. But ship captains and officers paid little attention to these early laws.

The Sailor's Union of the Pacific, founded in 1885, had been one of the first steps toward organizing seamen. It was the foundation of the future but the future was still a long way off. In 1915 President Woodrow Wilson signed the LaFollette Seaman's Bill for, as he put it, "It seemed the only chance to get something like justice done to a class of workmen who have been too much neglected."

The period of the first World War brought prosperity to the American merchant marine and substantial improvements in wages and working conditions of personnel. The unions gained tremendously in membership and in funds. But there continued to be an undercurrent of resentment against the unions by the ship owners. When the unions lost a major strike in 1921, job control was back in the hands of the owners.

The depression in 1929 greatly reduced the opportunities for profitable shipping. The volume of cargo carried by American ships fell by 55 per cent between 1929 and 1933. Private charitable institutions helped the seamen in getting shoreside employment. The government furnished relief funds. It was estimated in 1934 that some 2,300 seamen were being supported by nine charitable institutions in New York alone, with at least 3,000 additional idle seamen there.

Union recognition during these hard times was granted by the ship owners only under duress. There were no accompanying changes in policies to ensure successful collective bargaining. Widespread unemployment among seamen during the years preceding World War II made conditions unfavorable for demanding improvements in wages and working conditions. It was a time for regroupings and for nailing down the benefits already acquired. Immediately before Pearl Harbor, the government's main concerns with seamen were first to establish war risk bonuses and then to expand

manpower to meet the contemplated expansion of the merchant marine. Agreements were made promptly to ensure stability in labor-management relations before entering the war in December 1941.

Fear that the merchant marine would be operated as a naval auxiliary was assuaged by government assurances that the merchant marine would be operated privately. To implement these assurances, the War Shipping Administration returned requisitioned vessels, allowing their private owners to operate them as agents of the WSA.

There was not one strike in the maritime industry during the war. With the exception of a few minor and isolated misunderstandings, there were no delays in the

sailing of vessels as the result of labor disputes. Because of the wartime conditions, unions often made grudging concessions they would not have made under normal conditions. At no time, however, was there any question of the devotion of unions and their members to the larger duty of winning the war.

American seamen first became involved in the European phase of the war in 1939, nearly three years before the United States' entry. In those years, American seamen on unarmed vessels delivered supplies to European allies overseas. The heaviest casualties, however, did not begin until after the Japanese attack on Pearl Harbor.

According to statistics kept by the AFL-CIO Maritime Union of America, some 800,000 tons of U.S. shipping were lost in April 1942 as the result of wolfpack attacks by German U-boats. In some cases the attacks came within sight of shorelines between Florida and Maine. Peter Bocker, union vice president, recalls the tremendous losses of that year. "In the month of December, I can recall that an entire convoy carrying war supplies to the Soviet Union disappeared from the surface of the sea as the result of enemy action."

In a period of six years 5,638 American merchant seamen were killed in action and 733 vessels flying American flags were lost, according to the American Institute of Merchant Shipping.

"The American seaman has never let his country down," Bocker said. "No matter what the mission, the American seaman was there. In the final days of the Vietnam War, American merchant vessels manned by American seamen performed a mission of mercy that will long be remembered, the evacuation of some 179,000 Vietnamese civilians."

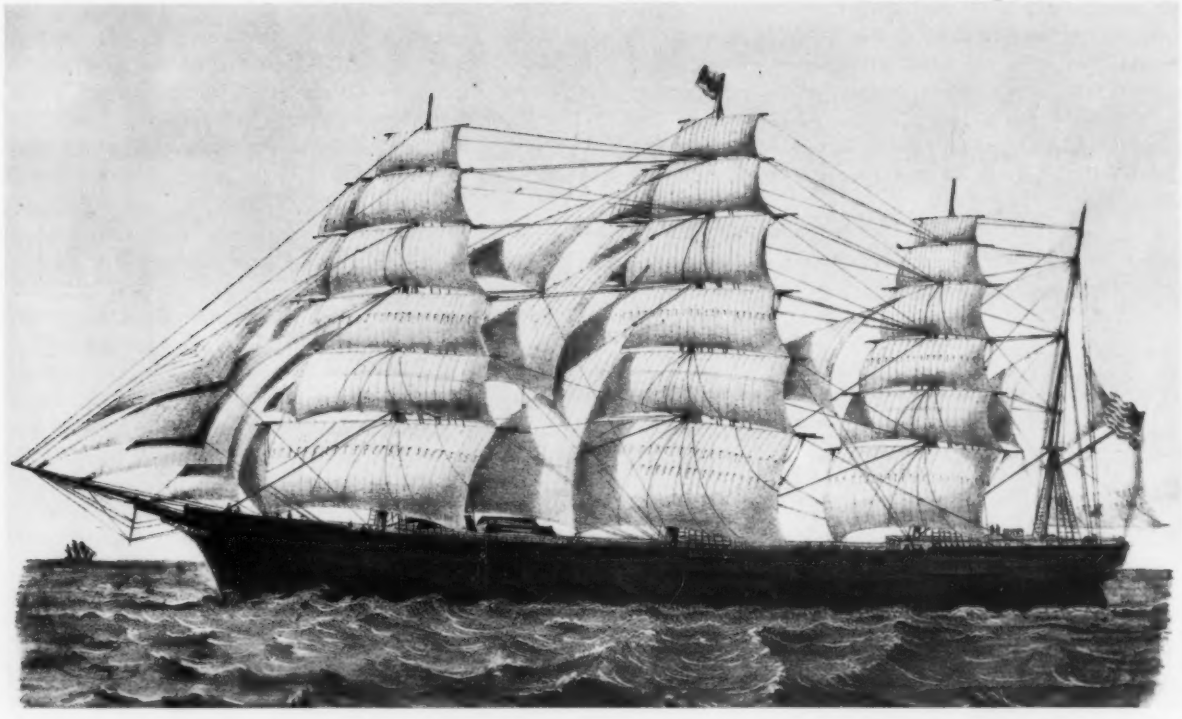
Today, through union achievements, improved labor-management relations and government aid, the American seaman has achieved a standard of pay that compares favorably with shoreside industrial wages and benefits. His pay and working conditions are among the best in the world. This does not mean, however, that no problems exist. Maritime jobs now are at a premium. "A seaman can have the best contract in the world but if he doesn't have a ship, the contract isn't going to do him much good," Bocker said.

Unlike his counterpart of the 18th and 19th centuries, today's seaman is more likely to be married with a family to support. According to the AFL-CIO union, 76 per cent of its members are married. Such issues as steady jobs, pensions, insurance and welfare plans are often utmost in their minds.

In the beginning years of this nation the seaman was exploited ashore and aboard ship. He was a rugged individualist but at the same time the easy prey of the land shark, the dishonest boardinghouse keeper, and anyone else who wanted to make an easy dollar. He was among the first called by his country to prepare for war and among the first to die.

Richard Henry Dana's vision of the wetched conditions of a sailor's life in mid-19th century America is no longer true. But it is a good reminder that the American merchant seaman has come a long way in the 200 years since the signing of the Declaration of Independence.

Clipper ships like the Great Republic played a key role in the nation's growth.



The Ships

By Louis R. Granger

They are gone now, the wooden-hulled sailing merchantmen whose sails flecked every ocean and sea, their captains and crews seeking cargoes and adventure in remote and uncharted ports. Although the square-riggers and merchant schooners are today largely history, the story of the American merchant marine is a continuing epic of ships, men and events.

No nation has ever grown so fully and quickly than the United States. The reasons are many: natural resources, technology and an energetic people with a willingness to fight tooth and nail for the ideas of freedom and democracy.

America was a maritime nation at the outset of its history, and it expanded as the nation grew. The tragedy of the Civil War, however, brought an end to that growth and never since has the American merchant marine been among the leaders in the shipping world except when spurred by the clear and immediate demands of war.

Although the business of shipping is not now one of the nation's strong points, the United States is a world leader in the technology of building specialized ships to meet the stringent requirements of trade and war.

The late Howard I. Chapelle, maritime historian and author, and curator for the Smithsonian Institution, said, "Without the sailing ship the early colonists could not have existed, nor could their successors have achieved independence and national distinction.

"Conditions on land and sea were then of such nature that certain trends of design were started. From these came fast and striking ships of various types, rigs and classes designed to meet stringent requirements of trade and warfare."

Those conditions brought us the ships, barks, brigs and brigantines, the slavers, down easters and the schooners. Later conditions plus improved technology gave us steamboats and iron-hulled steamships. World War I brought the homely but durable Hog Islanders and in the 1930s and 1940s when the nation attempted to strengthen the merchant marine and fight a war, the

C1, C2 and C3 cargo ships and the T2 tankers.

The famed Liberty ships and Victory ships also were products of World War II and some of these still are in service. After the Korean War, as the American Merchant Marine slid to new lows, technology again kept the nation afloat with container ships, roll-on, roll-off ships, barge carriers, gargantuan tankers, vessels that can carry a combination of liquid and dry bulk cargoes, specially designed ocean-going tugs and barges, and a type that is still under construction, the LNG or liquefied natural gas carrier.

Most maritime authorities place the beginning of American shipbuilding as an industry in the 1640s due to the increase in West Indian trade.

A vessel was a community venture in the 17th century. The blacksmith, the rigger and calker, all took their pay in shares. They became part owners, as did the merchant who supplied stores and materials. When the vessel was afloat, the master, mates and even the seamen were allowed cargo space for commodities which they might buy and sell to their own advantage.

New England vessels were sailing on every Atlantic trade route causing Sir Josiah Child, British merchant and economist, to lament in 1768 that in his opinion nothing was "more prejudicial and in prospect more dangerous to any mother kingdom than the increase of shipping in her colonies, plantations, or provinces."

The Yankee Jack-of-all-trades, when not fishing or farming in the summer, was ship building in the winter. These were mainly sloops, ketches and brigs, some of them not much larger and far less seaworthy than the lifeboats that hang on the davits of 20th century cargo ships.

Poverty forced him to dispense with the ornate, top-heavy cabins and forecastles of the foreign merchantmen. Invention, bred of necessity, molded finer lines and less clumsy models to weather a stormy coast and channels beset with shoals and ledges.

The square sail rig did well enough for deep water voyages, but it was awkward for working along the shore, and the colonial Yankee, therefore, designed the schooner with fore-and-aft sails which enabled her to beat to windward and also requiring fewer men in the handling.

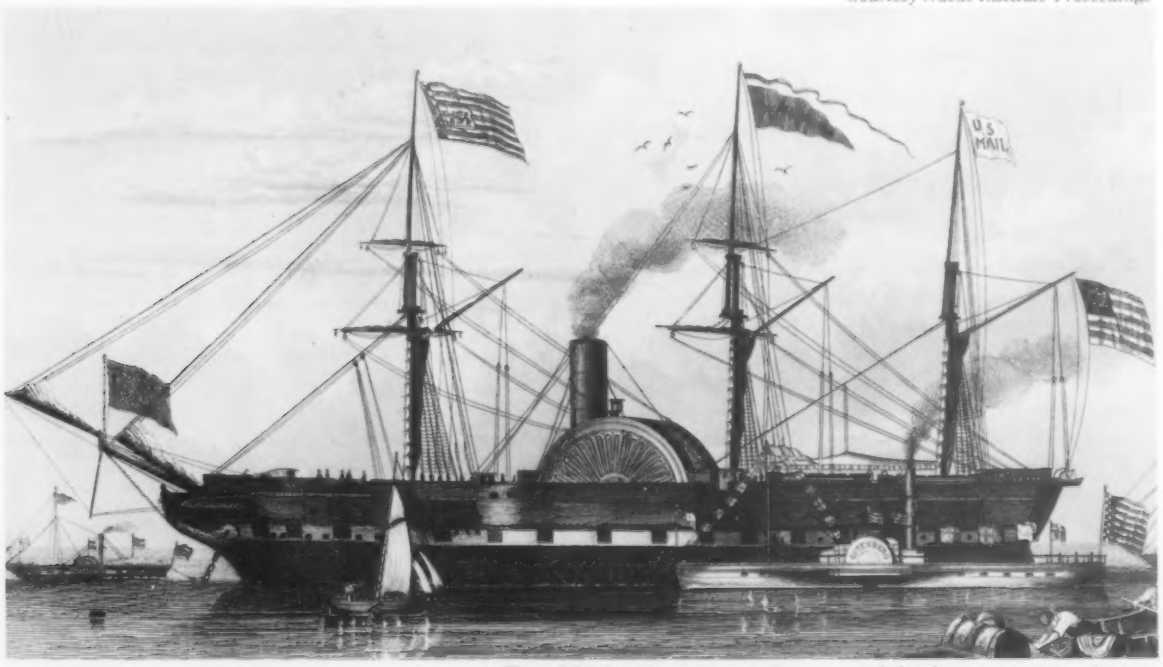
These early vessels were conspicuously efficient, carrying smaller crews than the Dutch or English, paring expenses to a closer margin, and daring to go wherever commerce beckoned in order to gain a dollar at peril of their skins.

By the end of the 17th century more than 1,000 vessels were registered in the New England colonies.

Ships, barks, barquentines, brigs, brigantines, ketches, sloops and schooners were the prevalent types from colonial times to the beginning of steam. The bark continued closer to the 20th century than the other square-rigged vessels.

The two-masted brigs were extremely popular with American seamen. They were sailed to South America

Courtesy Naval Institute Proceedings



The 230-foot-long transatlantic steamer SS Washington was put into service in 1847 and had a government contract to carry U.S. mail for $200,000 a year.

The SS Ohio of the American Line was a hybrid combining wind and steam power.

for coffee, to Africa for slaves, to the West Indies for sugar and molasses, and trade goods in the islands of the South Pacific. Before the advent of schooners, they sailed coastwise with lumber.

The popularity of the brig declined about 1840 in favor of the hermaphrodite brig and brigantine whose popularity lasted about 30 years. The hermaphrodite brig is square-rigged at the foremast and has only fore-and-aft sails on the main mast.

New England ships became known for their quality and cheapness and this so vexed the British shipbuilders that in 1720 they urged their government to limit the size of colonial-built vessels and to forbid their owners from trading with anybody and any nation except the British.

There was good reason to build speed into the colonial ships for they often had to outrun foreign privateers and pirates and even His Majesty's own ships enforcing the restrictive navigation and trade acts that were often ignored by the colonists.

A craft which figures prominently in the maritime records of the 18th century and the early 19th century was the snow. The only difference, however, between a snow and a full rigged brig was that the snow had its spanker on a trysail mast a foot or so behind the mainmast instead of on the mainmast proper. This enabled the snow to set a square mainsail.

Ketches were used a good deal in the offshore fishery until about 1700 when they lost popularity. It was a two masted square-rigged vessel. The mainmast was nearly amidships and carried a fore-and-aft sail and a square topsail and topgallant sail. The mizzen also carried a fore-and-aft plus a square topsail.

The ship rig consisted of three masts with square sails on all plus a small fore-and-aft on the mizzen mast. The bark also carried three masts but the mizzen mast only had fore-and-aft sails. The barquentine, however, carried square sails only for the fore mast and fore-and-aft sails on both the main and mizzen masts. All square-rigged vessels carried triangular staysails between the masts and sometimes square studding sails outboard of the primary square sails.

A departure from the conventional design was the privateer. A simplified hull, uncluttered by superstructure, and a tremendous spread of sail, enabled this vessel to become an unbeatable privateer and a very profitable merchantman. They were small, swift with a relatively large crew, qualities that enabled them to capture approximately 3,000 British merchant vessels during the Revolution.

Perhaps the 18th century seaman had more to lose from mother country laws than his landsman neighbor. Some 6,000 fishermen and seamen were involved in the North Atlantic fisheries. In 1775, on the brink of actual war, Lord North proposed to forbid the colonies to export fish to those foreign markets in which colonial seacoast villages were vitally concerned. He also threatened to drive the fishing fleet from its haunts off Newfoundland.

If enacted, the law would spread ruin among the busy ports such as Marblehead and Gloucester and put those 6,000 men out of work. The law was passed and no sooner was the Continental Congress ready to issue privateering commissions and letters of marque than those 6,000 were ready to "up anchor and away to bag a Britisher."

In the streets of Salem, Boston, New York and Baltimore troops with fifes and drums and strapping recruiting officers enrolled "all gentlemen seamen and able-bodied landsmen who had a mind to distinguish themselves in the glorious cause of their country and make their fortunes."

Many a ship's company was mustered between noon and sunset, including men who had served in armed merchantmen and who in times of nominal peace had fought the marauders of Europe or the corsairs of Barbary in the Strait of Gibraltar. Never were seamen so admirably fitted for the daring trade of privateering as the crews of these tall sloops, topsail schooners and square-riggers.

At the close of 1777, Congress had commissioned 174 private armed vessels, mounting 2,000 guns and carry-

ing 9,000 men. They took as prizes 733 British merchantmen and inflicted losses of more than two million pounds.

At first the privateers of 10 guns and 40 to 50 men were adequate. As the war progressed, swifter and larger ships were built. They had a score of heavy cannon and trained crews of 150 to 200 ready to engage a sloop of war.

Although the ship, brig and brigantine rigs were used in privateering, the topsail schooner was the favorite rig. These vessels had two masts, both with fore-and-aft sails, but with two to three square sails at the top of the foremast, combining the good qualities of the fore-and-aft sails and the square rig.

Many of these topsail schooners were built along the Chesapeake Bay and became known as Baltimore Clippers. These craft were long, light, and had extremely raking masts, little rigging, low freeboard and great rake to the stem and stern posts. They were nearly always flush decked with the wide decks suitable for working the ship and handling the guns.

By the early 1800s they were very popular with privateers, slavers and others requiring fast vessels.

Perhaps the greatest gift of American shipyards and designers to the merchant fleet before the Revolution was the schooner. Up to the early years of the 18th century, the square rig was the main characteristic of all vessels with more than one mast. Seaworthy, fast and easily handled, adapted for use in the early 18th century when inland transportation was almost impossible, the schooner carried on trade between the colonies and was an important factor in the growth of the fisheries.

After the Revolution the fishing industry prospered and it was closely linked with the coastwise merchant trade. Schooners loaded dried cod and lumber for southern ports and returned with naval stores such as tar, pitch, turpentine, pine oil and rosin.

The 1830s was a period of great expansion of the New England fisheries. The opening of the Erie Canal and the rapid construction of railroads west and south opened vast areas inland for marketing dried, salt and smoked fish. The growth of towns and cities along the coast was developing profitable markets for fresh fish when icing in transit became possible in the 1840s.

As the demand for fish grew, so did the schooners and their numbers. By 1850, however, lumber was becoming increasingly difficult to find and timber had to be brought to the New England shipyards by water, either in schooners or by barges on inland waterways. It was still cheap to build a vessel, about $35 a register ton. Labor and material remained low until the Civil War, and the workmen labored from sunrise to sunset in the yards.

As coastwise trade and the fisheries expanded the schooners became larger. Three-masters were common after the Civil War, four-masters came in 1880, the first five-master in 1888 and a six-master in 1900. And finally, in 1902, the first and only seven-master schooner, Thomas W. Lawson (see Sealift September 1974). The Lawson, however, was unwieldy and difficult to handle and in 1907, with a cargo of 2.5 million gallons of paraffin oil, dragged her anchors, struck rocks and sunk off the Scilly Isles.

The schooners started to be equipped with auxiliary power near the turn of the century and from 1901 the numbers of engines installed steadily increased. It was a gradual conversion for the fishing schooners, but the change eventually led to the supression of sail and by 1925 the engine was the main propulsion system. The complete supression of sail followed the introduction of the heavy oil engines and diesel trawlers and seiners after 1930.

Real progress in ocean transportation came with the discovery of steam as a workable source of power. The English were the first to successfully use steam as power, but the first steamship to cross the Atlantic Ocean was the American vessel Savannah, built by Francis Fickett in 1818. Savannah was about 100 feet long with a 28-foot beam and was powered with a 72 horsepower engine that drove wrought iron sidewheels. The vessel also had the usual number of sails and spars as a sailing ship. She cost about $50,000.

The development of steam navigation in the United States was slow, beginning with the experiments of John Fitch who in 1790 propelled his boat with vertically hung paddles. It was Robert Fulton, however, who demonstrated the feasibility of commercial steam navigation with the Clermont.

Steamboats and steamboatmen pioneered the inland waterways and in less than half a century fanned out from Pittsburgh, the head of navigation on the Ohio, to the Pacific Coast. In California, the clipper ships may have carried the 49ers to San Francisco, but it was the steamboats that transported them to the diggings.

The first steamboat to ply the western rivers was the New Orleans, built at Pittsburgh by Fulton and Robert R. Livingston in 1811. Fulton and Livingston built four more steamboats in an attempt to monopolize the river trade. The New Orleans, however, was more of a steamship than steamboat. The vessel had a low pressure engine in the hold and a draft of about seven feet. Steamboats, on the other hand, were shallower draft vessels with the boilers and engine on deck. Steamboats were created by Capt. Henry Miller Shreve, an ex-flatboat captain, whose craft could contend with the numerous shallows, sandbars and shifting channels. He used the wide-beamed keelboat for a model and decked it over.

By the time gold was discovered in California, steam navigation was advancing and Americans were challenging Britain's North Atlantic steamship monopoly. But it took the square-rigged clipper ships to spark the nation's pride in its maritime heritage.

The clipper ship was America's answer to speed under sail (see Sealift January 1974). These vessels had a sharp bow, finer lines than most ships of the day. The curve of the hull from the bow along the waterline was

concave before it became convex. In other ships the hull was rounded like the outside of a ball for its entire length.

The clipper era lasted about 15 years from the mid-1840s to about 1860 when cargo capacity became more important than speed.

Wooden hulled vessels for both sail and steam driven vessels continued to be built in the United States until about 1870 due to the cost of iron which had to be imported. By the early 1870s the American ocean-steamship shipbuilding industry had reached a high degree of maturity. Iron was in greater supply and had supplanted wood, and engine building techniques had been smoothed out.

But America was not through with sail. One of the finest types was the down easter that followed the clipper. Some of these vessels were the highest development of the sailing ship. They combined speed, cargo capacity, ease of handling and low operating costs. These square-rigged merchantmen were less sharp bowed than the clippers but could equal their speed.

Although coastwise trade increased after the Civil War, the merchant marine as a whole declined and when war broke out in Europe in 1914 the United States had practically no ships in foreign trade.

A successful cargo ship that did come out of World War I was the Hog Islander. Although built for the war effort, none was launched before the war ended. Many were sold to private companies and sailed for many years.

Congress enacted a series of maritime laws in 1916, 1920 and 1928 to regulate and stimulate the merchant marine. But the landmark legislation was the Merchant Marine Act of 1936 which established the cost differential between the operations and construction of ships in the United States and abroad. It also established a maritime commission to administer the act.

Commission architects developed a series of ship designs. These were the C1, C2 and C3 types of dry cargo ships up to 10,000 deadweight tons.

The C1 was a turbine driven, single screw vessel that could be used as freighter or transport in case of war. Built by private firms with government financing, the ships varied somewhat according to anticipated commercial use. They were about 418 feet long and capable of 14 to 15 knots.

The C2s were about 459 feet with a speed of 15½ knots and a cruising radius of 18,850 nautical miles.

In about 1940 the C3 class came out. These were 30 feet longer than the C2s and designed for freight and passenger service, particularly on the West Indian and Central American runs. A standard C3 would accommodate a 122-man crew and 111 passengers. They could attain a speed of 16½ knots.

The most famous mass produced dry cargo ship was the Liberty class (see Sealift March 1974). They dominated the oceans for nearly a decade. Their large cargo capacity, simplified cargo gear and economical and reliable reciprocating engines proved a mainstay in postwar reconstruction. The Liberties became the subject of numerous maritime experiments, including lengthening and the installation of different propulsion systems. The William Patterson built in 1942 was lengthened and a free-piston gas-turbine engine replaced her reciprocating engine. Although the speed was increased, the new engine proved excessively noisy.

Altogether 2,710 Liberty ships were built between 1941 and 1944. They were 10,865 deadweight tons with speeds of 10 to 11 knots and a cruising radius of 10,000 nautical miles.

The first Liberty ship was the Patrick Henry, built in 150 days from keel laying to launching. Succeeding ships took less time and some yards achieved a rate of about 17 days from keel laying to launching. The Permanente Yard No. 2 near Oakland set the record with the Robert E. Peary—4 days, 15 hours and 30 minutes.

Such speedy construction was made possible by welding large pieces together elsewhere in the yard and then bringing them together for final assembly on the ways.

The first Liberty sunk in the war was the John Adams, completed in March 1942. It was sunk in the Pacific in May of that year. Almost 50 Liberties were sunk on their maiden voyages.

Because of the low speed of the Liberties, the Maritime Commission designed the faster Victory class. They were 455½ feet long, capable of maintaining 16½ knots and some made 18 knots in emergencies. Their cruising radius was 20,500 nautical miles.

The standard tanker that came out of the 1936 act was the T2. They were 16,600 deadweight tons, made 14½ knots and had cargo capacity of 140,000 barrels.

Some 525 T2s were built during the war and by the mid-1960s the U.S.-flag tanker fleet consisted of about 40 per cent T2s. About 22 per cent of these were modernized and jumboized, that is, lengthened by adding mid-bodies. This increased their life span about 15 years and their capacity to 175,000 barrels.

The standard tanker of the Military Sealift Command at one time was the T2, most of them transferred to the command by the Navy. The T2s were replaced by MSC with the 25,000-deadweight-ton Sealift class tankers that went into operation last year.

Modern-day tankers vary tremendously in size. The largest are nearly half a million deadweight tons and carry crude oil from producing regions in the Far East to mostly European refineries. These vessels are designated VLCC for very large crude carrier, and ULCC for ultra large crude carrier. The smaller tankers also carry crude, but generally are engaged in distribution of refined products.

Tankers carry other liquid cargoes besides petroleum products such as chemicals and wine. They also carry grain in bulk.

A type of tanker currently under construction in U.S. shipyards is the liquefied natural gas carrier or LNG. These are sophisticated and expensive ships designed to carry natural gas liquefied under extremely low temperatures.

Under a partnership agreement between General Dynamics, Panhandle Eastern Pipelines Co. and Moore-McCormack Bulk Transport, Inc., liquefied natural gas will eventually be transported to the United States from Algeria. The agreement calls for two LNG ships to be built at General Dynamics Quincy shipyard. The vessels will each have five spherical tanks containing five million cubic feet of gas super-chilled to -265 degrees F., enough gas to service a million homes for a month.

Ship construction in U.S. yards was strengthened with the Merchant Marine Act of 1970 which initially called for the construction of some 300 highly productive merchant ships of advanced designs with government aid. These include supertankers, the combination ore-bulk-oil (OBO) carriers, the LNGs, container ships and barge carriers.

The OBO carriers were designed to avoid long, money-losing voyages in ballast because crude carriers make one-way runs to refineries and return in ballast.

The container ship idea originated in 1956 with the trucking industry. In 1956, Sea-Land Service, Inc., owned by Malcolm McLean who also operated a trucking firm, loaded containers on a specially constructed spar deck on the Ideal X, a converted World War II tanker. The first fully containerized ship was the Gateway City which, in 1957, offered regular service between New York, Florida and Texas.

Containerization grew and in the 1960s breakbulk freighters and tankers were converted for a number of lines. Sea-Land continued to lead the way and its SL-7 class container ships are among the world's largest and fastest cargo vessels. The ships have speeds of 33 knots, are 38,800 deadweight tons with a capacity of 1,096 containers.

The SL-7s can be unloaded and reloaded in less than 24 hours. In contrast, it would take several days in loading and unloading a conventional freighter.

The barge carrier is another maritime innovation in cargo movement. These ships load, carry and unload specially designed lighters or barges, each carrying hundreds or thousands of tons of cargo. The LASH, or lighter-aboard-ship, version has 500-ton barges that are lifted out of the water over the stern by a shipboard gantry crane. The crane with the barge moves on tracks forward in the ship and lowers the barge into a cell.

The Seabee, or Sea Barge, version has a huge elevator built into the stern and lifts 2,000-ton barges to one of several deck levels. Hydraulic transporters then move the barges forward and place them on special jacks.

Another innovation is the notch barge which is an integrated tug-barge system. The tug fits into a special notch in the stern of the barge making both tug and barge a rigid system. Some of the barges are up to 50,000 deadweight tons designed for dry bulk and liquid bulk cargoes.

It was in the 1950s that Military Sealift Command played a major part in the development of another maritime innovation—the roll-on, roll-off ship. USNS Comet was designated as a roll-on, roll-off carrier and built for MSC by the Sun Shipbuilding and Drydock Co. The keel was laid on May 15, 1956 and launched on July 31, 1957.

Prior to letting the contract, MSC, the former Army Transportation Corps, Naval Sea Systems Command and private industry made a three-year study of preliminary designs.

Comet has five loading ports leading onto the second deck. Her four sideport loading ramps are located fore and aft of the superstructure, two each on the starboard and port sides. A fifth entrance is over a ramp through the stern. Vehicles are stored in two large holds, each 130 feet long and 75 feet wide.

Since the Comet came into the MSC fleet two additional MSC roll-on, roll-off ships have been added, the USNS Meteor (formerly the USNS Sea Lift) and the GTS Adm. Wm. M. Callaghan, a 26-knot vessel developed by Sun Ship and American Export Isbrandtsen Line for charter to MSC.

One of the most recent roll-on,roll-off ships to go into operation was the SS Arizona owned by States Steamship Co. Arizona entered transpacific service in June and will be followed by two more States roll-on ships, the Nevada in October and the Illinois in mid-1977. The first of States new roll-on ships was the Maine that began Pacific service in late May.

These ships, equipped with their own on-board retractable ramps, will be able to carry 20-foot and 40-foot containers. They will carry their own forklift trucks, straddle carriers and gantry cranes. States President J. R. Dant said the ships will be able to carry such things as sections of manufacturing plants and petroleum refineries, hydraulic turbines, components of off-shore drilling rigs, airplanes, helicopters, yachts and a number of bulk liquid cargoes.

From the square-riggers and coastal schooners to the big container ships and giant tankers, the quality and productivity of America's merchant ships have not declined. The story of these vessels in the past 200 years has been one of advancement and innovation. ⚓

Crew of USNS Sealift China Sea rescued 31 survivors of the Panamanian-flag SS Victory Glee which sank June 6 in the Arabian Sea. China Sea was enroute from the Persian Gulf to Japan when Capt. Richard Fryer altered course in answer to the Victory Glee's distress call. Survivors were taken to Sri Lanka. The MSC tanker is operated for the command by Marine Transport Lines of New York. See story in August Sealift.

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